GE ELECTRONICS

6GL7

DISSIMILAR DOUBLE TRIODE

FOR TV VERTICAL-DEFLECTION OSCILLATOR AND AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6GL7 is a dissimilar double triode designed for use as a combined vertical-deflection oscillator and amplifier in television receivers. Section 1, a high-mu triode, is intended for service as an oscillator; Section 2, a low-mu, high-perveance triode, for service as an amplifier.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC*	6.3±0.6	Volts
Heater Current†	1.05	Amperes

Direct Interelectrode Capacitances, approximate‡

	Section 1	Section 2	
Grid to Plate: (g to p)	4.0	8.0	pf
Input: g to (h + k)	2.2	6.0	pf
Output: p to (h + k)	0.6	1.3	pf

MECHANICAL

Operating Position - Any
Envelope - T-9, Glass
Base - B8-6, Intermediate-Shell Octal 8-Pin
Outline Drawing - EIA 9-5

Maximum Diameter	1.281	Inches
Maximum Over-all Length	3.000	Inches
Maximum Seated Height	2.438	Inches

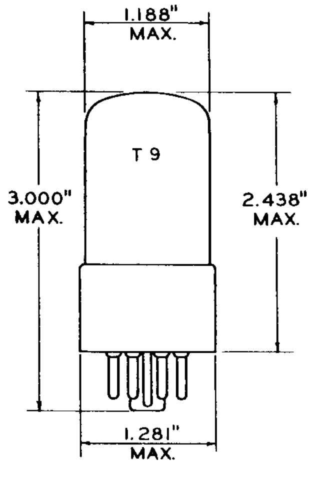
MAXIMUM RATINGS

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

PHYSICAL DIMENSIONS

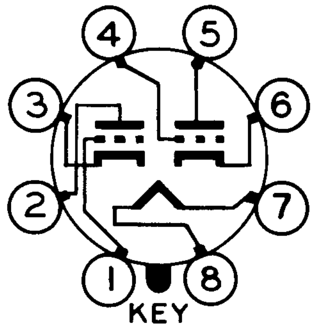


EIA 9-5

TERMINAL CONNECTIONS

Pin 1 - Grid (Section 2)
Pin 2 - Plate (Section 2)
Pin 3 - Cathode (Section 2)
Pin 4 - Grid (Section 1)
Pin 5 - Plate (Section 1)
Pin 6 - Cathode (Section 1)
Pin 7 - Heater
Pin 8 - Heater

BASING DIAGRAM



EIA 8BD

MAXIMUM RATINGS (Cont'd)

DESIGN-MAXIMUM VALUES

	Vertical Oscillator Service (Section 1) §	Vertical Deflection Amplifier (Section 2) §	
DC Plate Voltage	350	550	Volts
Peak Positive Pulse Plate Voltage	---	1500	Volts
Peak Negative Grid Voltage	400	250	Volts
Plate Dissipation	1.0	10¶	Watts
DC Cathode Current	---	50	Milliamperes
Peak Cathode Current	---	175	Milliamperes
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
DC Component	100	100	Volts
Total DC and Peak	200	200	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts
Grid Circuit Resistance			
With Fixed Bias	1.0	1.0	Megohms
With Cathode Bias	2.2	2.2	Megohms

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

	Section 1 (Oscillator)		Section 2 (Amplifier)		
Plate Voltage	250	275	60	175	Volts
Grid Voltage	-3.0	#	0Δ	-25	Volts
Amplification Factor	66	---	---	5	
Plate Resistance, approximate	30000	---	---	780	Ohms
Transconductance	2200	1600	---	6400	Micromhos
Plate Current	2.0	13	100	46	Milliamperes
Grid Voltage, approximate					
Ib = 20 Microamperes	-5.3	---	---	---	Volts
Grid Voltage, approximate					
Ib = 200 Microamperes	---	---	---	-60	Volts

FOOTNOTES

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

† Heater current of a bogey tube at Ef = 6.3 volts.

‡ Without external shield.

§ For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

¶ In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.

Adjusted for Ib = 13 milliamperes.

Δ Applied for short interval (two seconds maximum) so as not to damage tube.

RECEIVING TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky